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Conservation Systems Research

Evaluation of Planting Dates and Termination Dates for Winter Cover Crops

RESEARCH PROJECT DESCRIPTION NO. 36



Multiple planting date experiment - rye.

Researchers

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The Challenge

Historically, cover crop planting has occurred throughout the fall at the discretion of growers' schedules and, weather permitting, after summer crop harvest. If growers plant winter covers early, they are at risk of frost-kill. Planting covers late can lead to little cover in the cooler and wetter winter months.

Cover crops are usually killed with herbicides at least two weeks before planting, subject to the grower's schedule and weather. Other studies have shown that planting date and termination date influence quality and quantity of residue production, as well as subsequent weed suppression and soil moisture availability. The challenge is to develop a model that recommends dates for planting and terminating cover crops to maximize ground cover, weed suppression, and soil moisture.

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The Experiment

This study is being replicated at four research farms within the Alabama Agricultural Experiment Station system: the E.V. Smith Research Center near Milledgeville (eastern Alabama), the Wiregrass Research and Extension Center at Headland (southern Alabama), the Blackbelt Research and Extension Center (west Alabama), and the Tennessee Valley Research and Extension Center at Belle Mina (northern Alabama). A fifth site is at the University of Florida's West Florida Research and Education Center at Jay (western panhandle). This study began in the fall of 2003.

At various planting dates each fall, cereal rye and clover are planted no-till as winter cover crops. Covers are then terminated at various dates before planting the summer crops. Rye is followed by cotton and, in one location, soybean; clover is followed by corn. Evaluations will include cover crop residue present throughout the winter and at spring planting, weed biomass, soil moisture, and plant growth and yield of cotton, corn, and soybean.



Multiple planting date experiment – clover.